

# German Pils

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **35**
- SRM **3.9**
- Style **German Pilsner (Pils)**

## Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

## Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9.8 liter(s)**
- Total mash volume **13 liter(s)**

## Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**

## Mash step by step

- Heat up **9.8 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Sparge using **8.7 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński (W)	3.1 kg (95.4%)	81 %	4
Grain	Cara Clair (carapils) (Castle)	0.15 kg (4.6%)	78 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnat PH 2019	10 g	60 min	12 %
Boil	Lubelski PH 2019	20 g	5 min	5 %
Boil	Magnat PH 2019	20 g	5 min	12 %
Whirlpool	Puławski PH 2019	50 g	0 min	7.6 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Dry	22 g	Fermentis

## Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	4 g	Mash	60 min
Water Agent	sól	2.5 g	Mash	60 min

Water Agent	kreda	2.5 g	Mash	60 min
Fining	whirflock	1 g	Boil	5 min